

5.4 notes

Tuesday, March 10, 2020 1:16 PM

PreCalc 11

5.4-Solving Radicals by Graphing

Review:

exponent is 1

exponent is 2

exponent is $\frac{1}{2}$

Graphing each of the following (Review):

Linear $y = mx + b$

Quadratic $y = a(x-p)^2 + q$

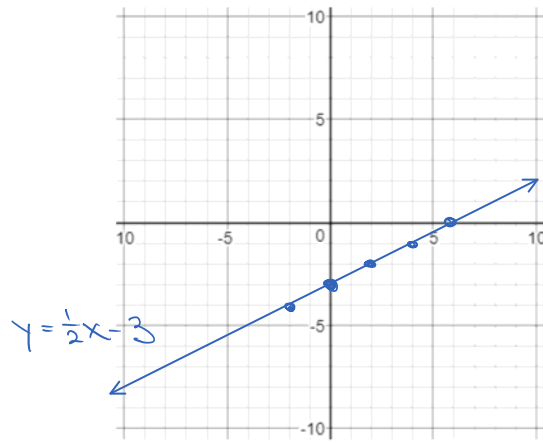
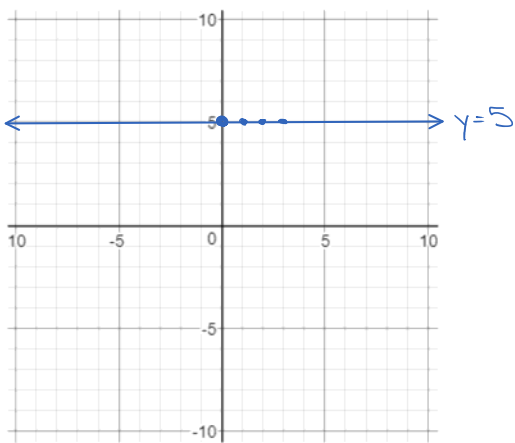
Radical $y = a\sqrt{x-h} + k$

$m=0$ $b=5$

$m = \frac{1}{2}$ (rise) $m = -\frac{1}{2}$ (run) $b = -3$

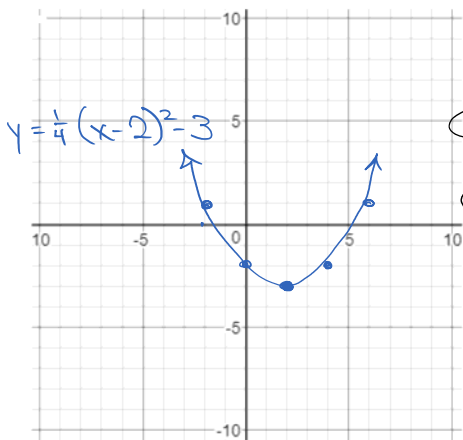
a. $y = 5 \leftarrow y = \frac{0}{1}x + 5$

b. $y = \frac{1}{2}x - 3$

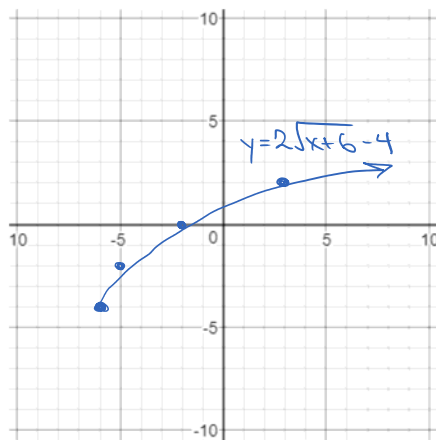


c. $y = \frac{1}{4}(x-2)^2 - 3$ $a = \frac{1}{4}$ $(2, -3)$

d. $y = 2\sqrt{x+6} - 4$ $a = 2$ $(-6, -4)$



x-	ay-
±1	$\frac{1}{4}(1) = \frac{1}{4}$
±2	$\frac{1}{4}(4) = 1$
±3	$\frac{1}{4}(9) = \frac{9}{4}$
±4	$\frac{1}{4}(16) = 4$

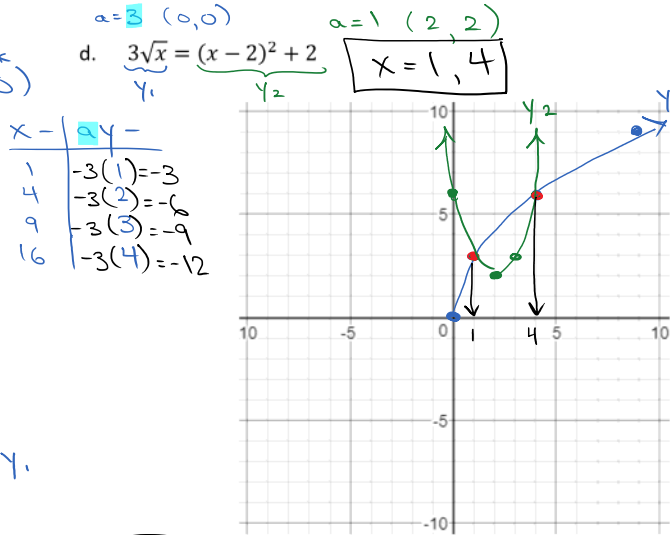
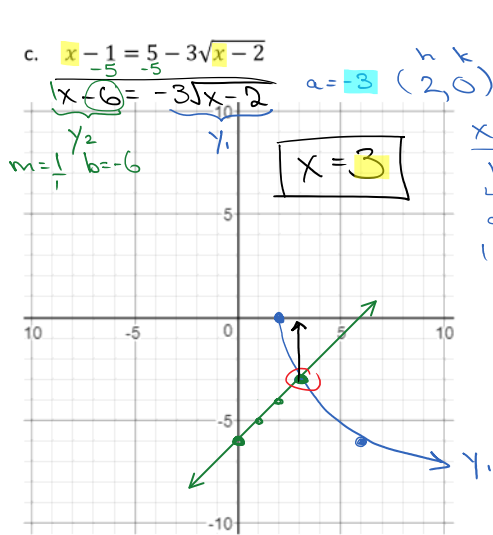
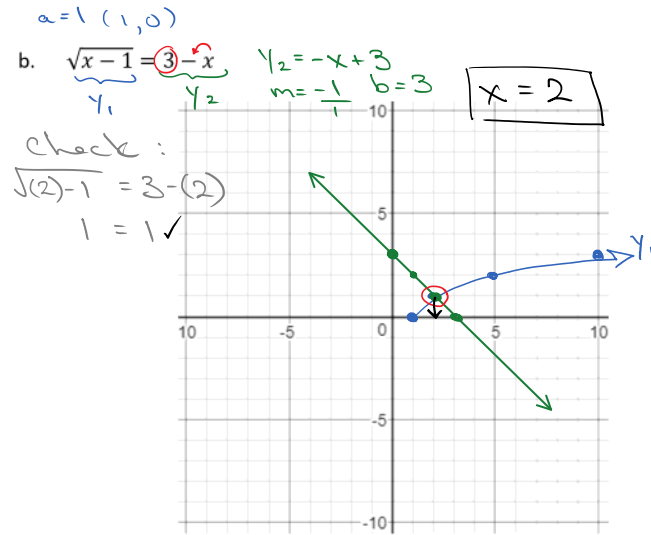
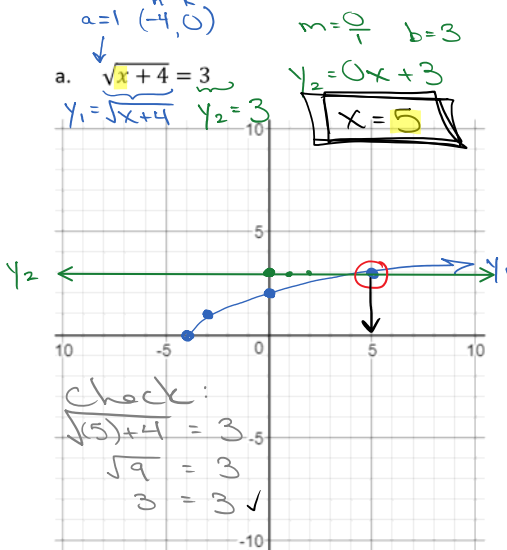


x-	ay-
1	$2(1) = 2$
4	$2(2) = 4$
9	$2(3) = 6$

Solving graphically means to find the x value(s) at which two functions cross or intersect.

Let's practice solving radical equations graphically. To do so we must...

1. Rearrange the equation to isolate the radical function (if necessary)
2. Graph the left side as y_1
3. Graph the right side as y_2
4. State the x-value(s) at which the two equations cross – the point at which the equations are equal.



x	y
1	3(1) = 3
4	3(2) = 6
9	3(3) = 9

HW: 5.4 WS